

Water Conditions Summary

***Governing Board Meeting
February 14, 2008***

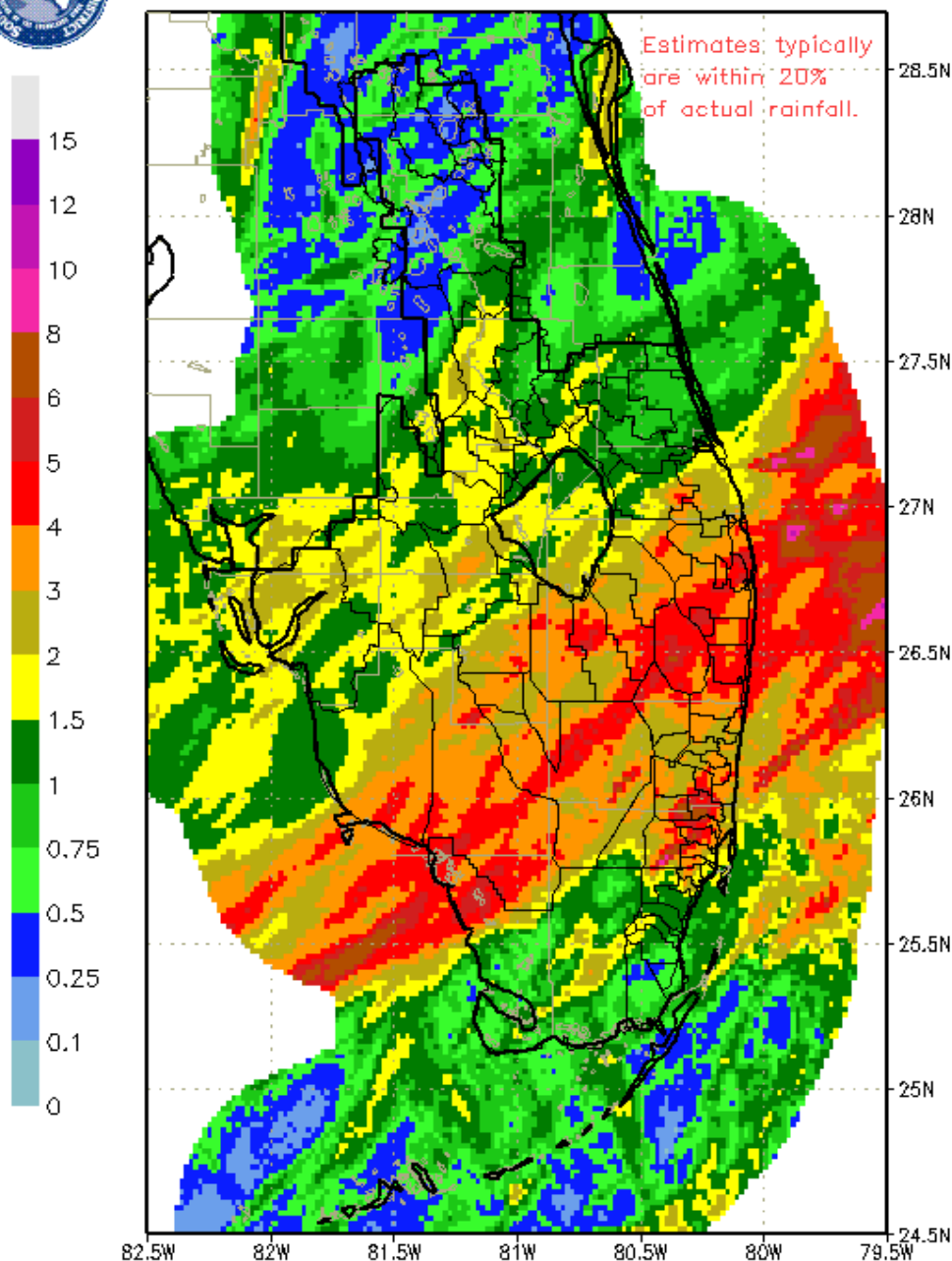
***Calvin J. Neidrauer, P.E.
Operations Control Department***



SFWMD RAINDAR 7-DAY RAINFALL ESTIMATES

FROM: 1645 EST, 02/06/2008

THROUGH: 1645 EST, 02/13/2008



DISTRICT-WIDE RAINFALL ESTIMATE: 2.265"

SFWMD 2008 Past 7-day Rainfall

Feb 6th – 13th

**DISTRICT-WIDE:
2.3 inches**

- ~2" in the 30 hrs ending ~4pm on 13-Feb.
- Most rain in 30hrs since T.S. Barry 1-Jun-2007
- 0.25-0.75" over the Upper Kissimmee Basin
- 1"-2" over the southern Lake O Watershed
- 1.5"-2" over Lake O, west Caloosahatchee Basin, & ENP.
- 2"-4" over the EAA, WCA-2&3 and Big Cypress area.
- 4"-5" over WCA-1 & parts of E.Palm Bch & Broward Counties

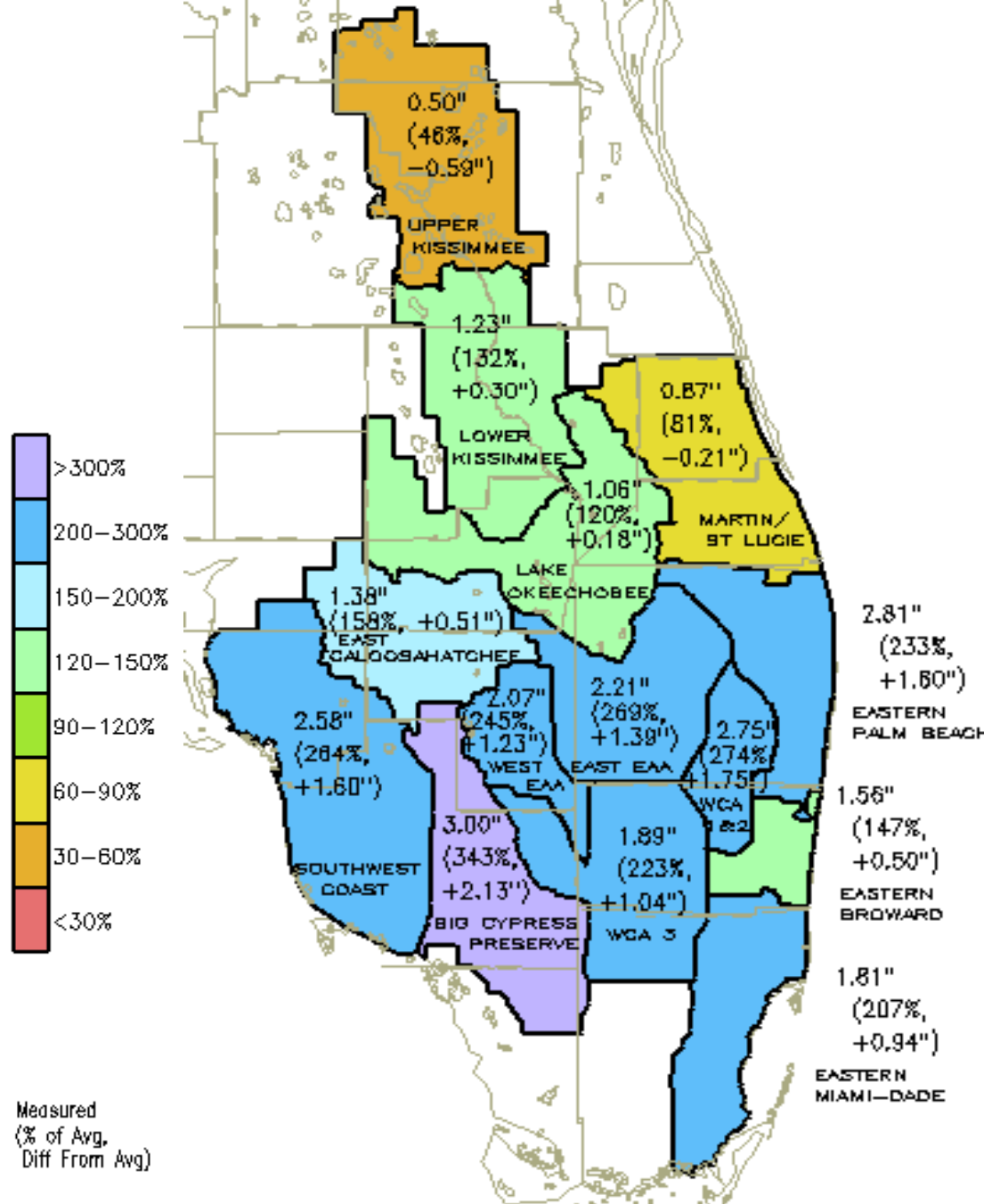
SFWMD 2008 February Rainfall Feb 2nd – 13th

DISTRICT-WIDE:
1.76" (188%, +0.82")

**Average February
= 2.19"**

As of 13-February-2008:

- Most basins are 0.5"-1.5" above average
- Exceptions are Upper Kissimmee & Martin/StLucie
- Big Cypress and WCA1&2A are about 2" above average



SFWMD 2007-08 Dry Season Rainfall 02-Nov-07 to 13-Feb-08

DISTRICT-WIDE:
4.71" (60%, -3.13")

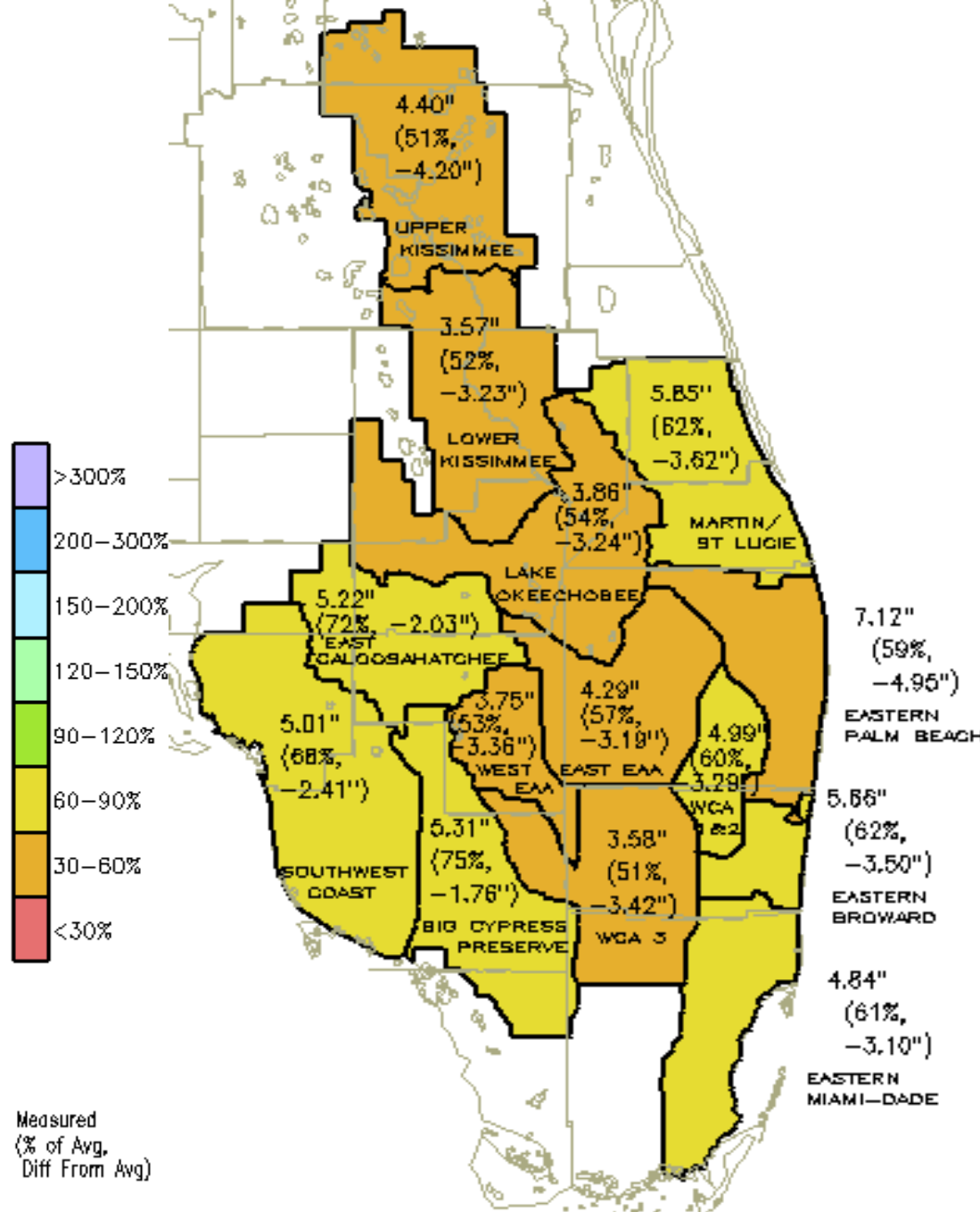
**Average Dry Season
= 18.8"**

As of 13-February-2008:

- All basins remain about 2"-4" below average for the dry season

2007 stats:

- 9th driest year since 1932
- 2006-2007 set a new record-low 2 calendar-yr total (83.6") (1955-56: 84.6")



U.S. Drought Monitor

Southeast

February 5, 2008

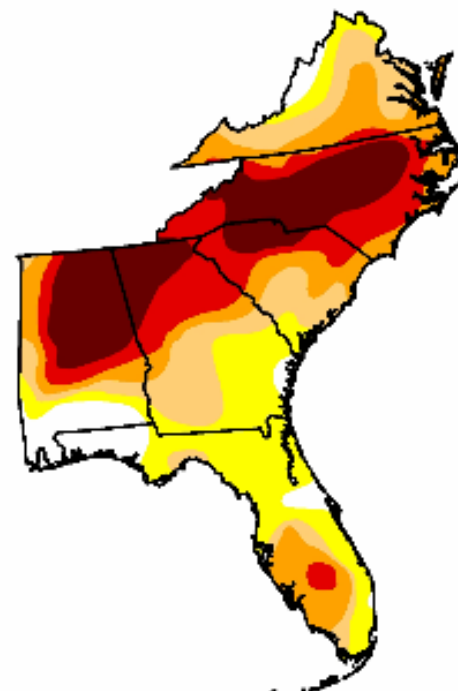
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.0	92.0	71.8	54.8	36.3	19.8
Last Week (01/29/2008 map)	7.3	92.7	72.8	57.8	39.2	21.3
3 Months Ago (11/13/2007 map)	11.3	88.7	73.6	53.8	36.3	23.1
Start of Calendar Year (01/01/2008 map)	9.6	90.4	74.3	58.5	41.0	22.0
Start of Water Year (10/02/2007 map)	10.1	89.9	77.9	63.8	45.2	24.0
One Year Ago (02/06/2007 map)	73.7	26.3	7.2	0.0	0.0	0.0

Intensity:

 D0 Abnormally Dry	 D3 Drought - Extreme
 D1 Drought - Moderate	 D4 Drought - Exceptional
 D2 Drought - Severe	



The Drought Monitor focuses on broad-scale conditions.
Local conditions may vary. See accompanying text summary
for forecast statements

<http://drought.unl.edu/dm>



Released Thursday, February 7, 2008

Author: J. Lawrimore/L. Love-Brotak, NOAA/NESDIS/NCDC

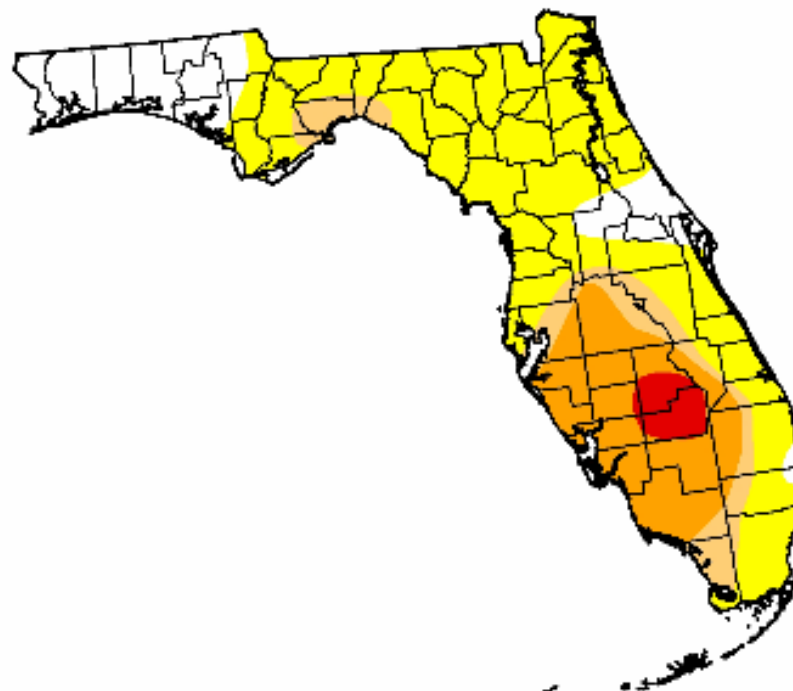
U.S. Drought Monitor

Florida

February 5, 2008

Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	15.9	84.1	31.6	21.9	3.0	0.0
Last Week (01/29/2008 map)	15.9	84.1	29.0	19.4	3.0	0.0
3 Months Ago (11/13/2007 map)	44.8	55.2	17.4	4.6	0.0	0.0
Start of Calendar Year (01/01/2008 map)	31.8	68.2	33.1	19.7	2.6	0.0
Start of Water Year (10/02/2007 map)	20.8	79.2	44.2	22.0	9.1	0.0
One Year Ago (02/06/2007 map)	26.6	73.4	36.5	0.0	0.0	0.0



Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

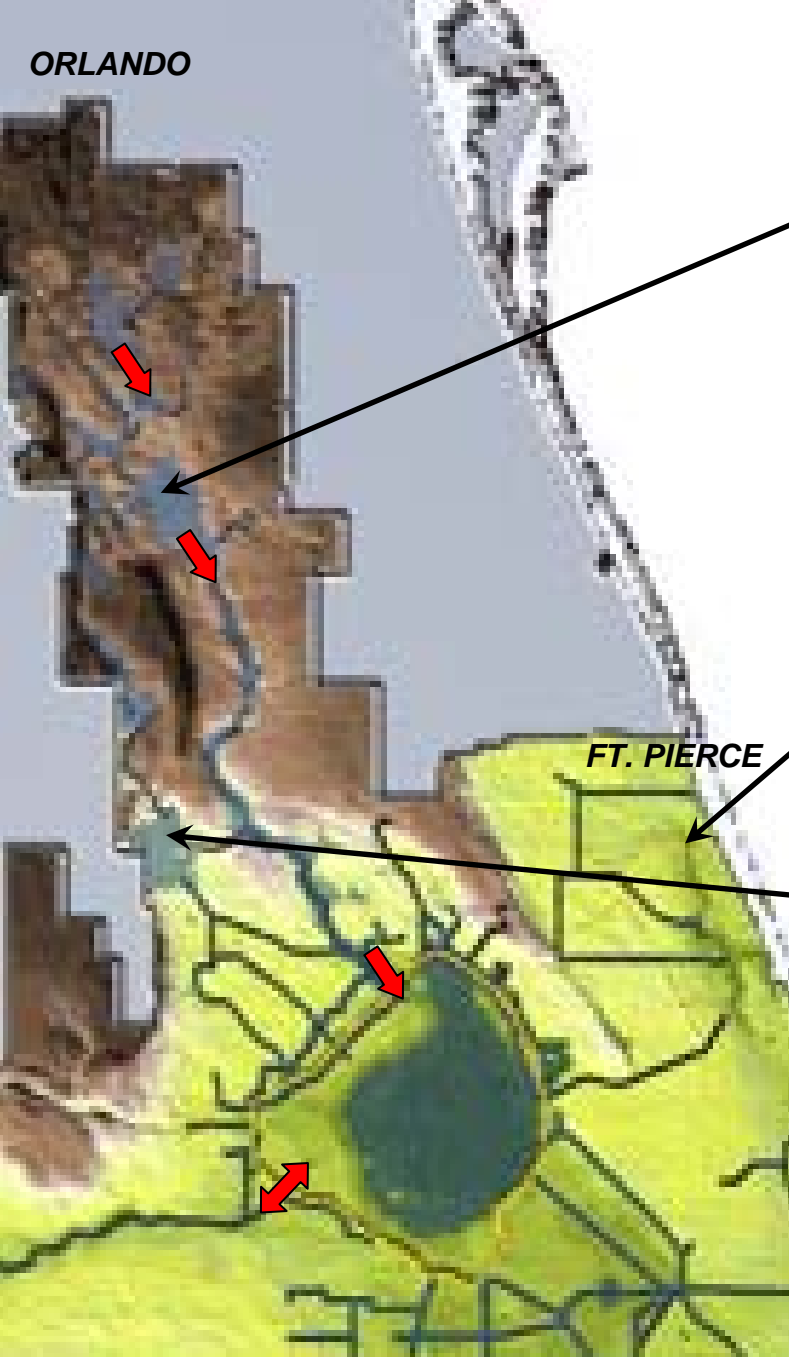
<http://drought.unl.edu/dm>



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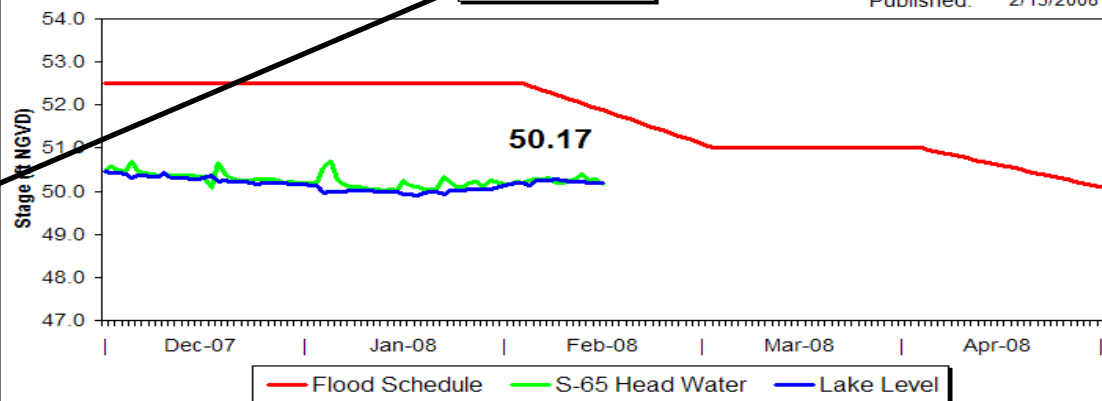
ORLANDO



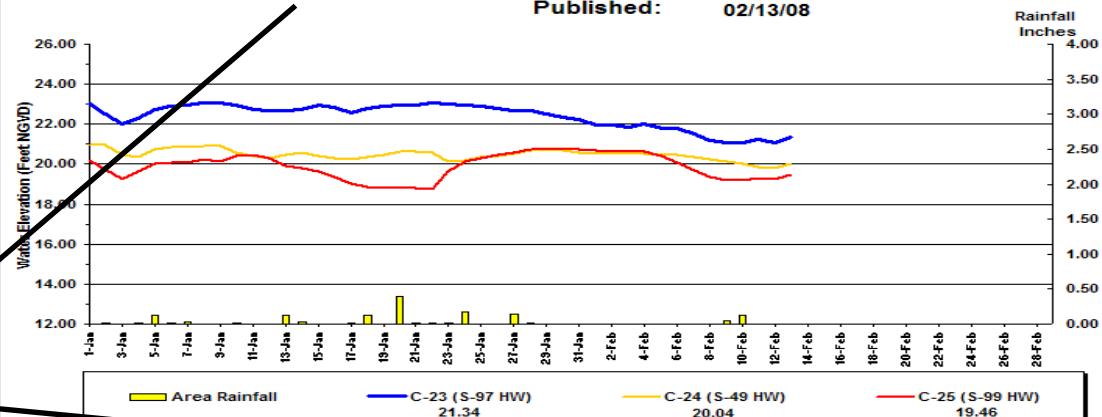
FT. PIERCE

Lake Kissimmee

Published: 2/13/2008

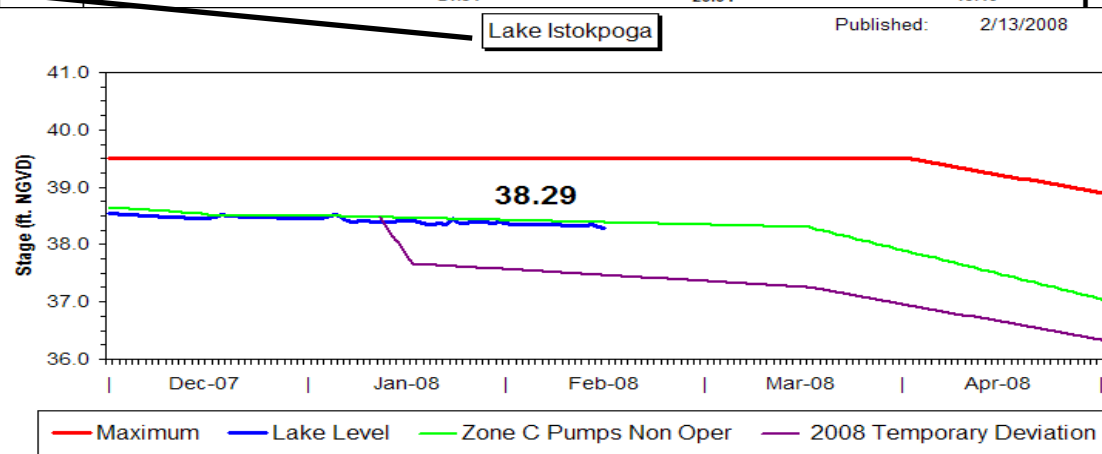


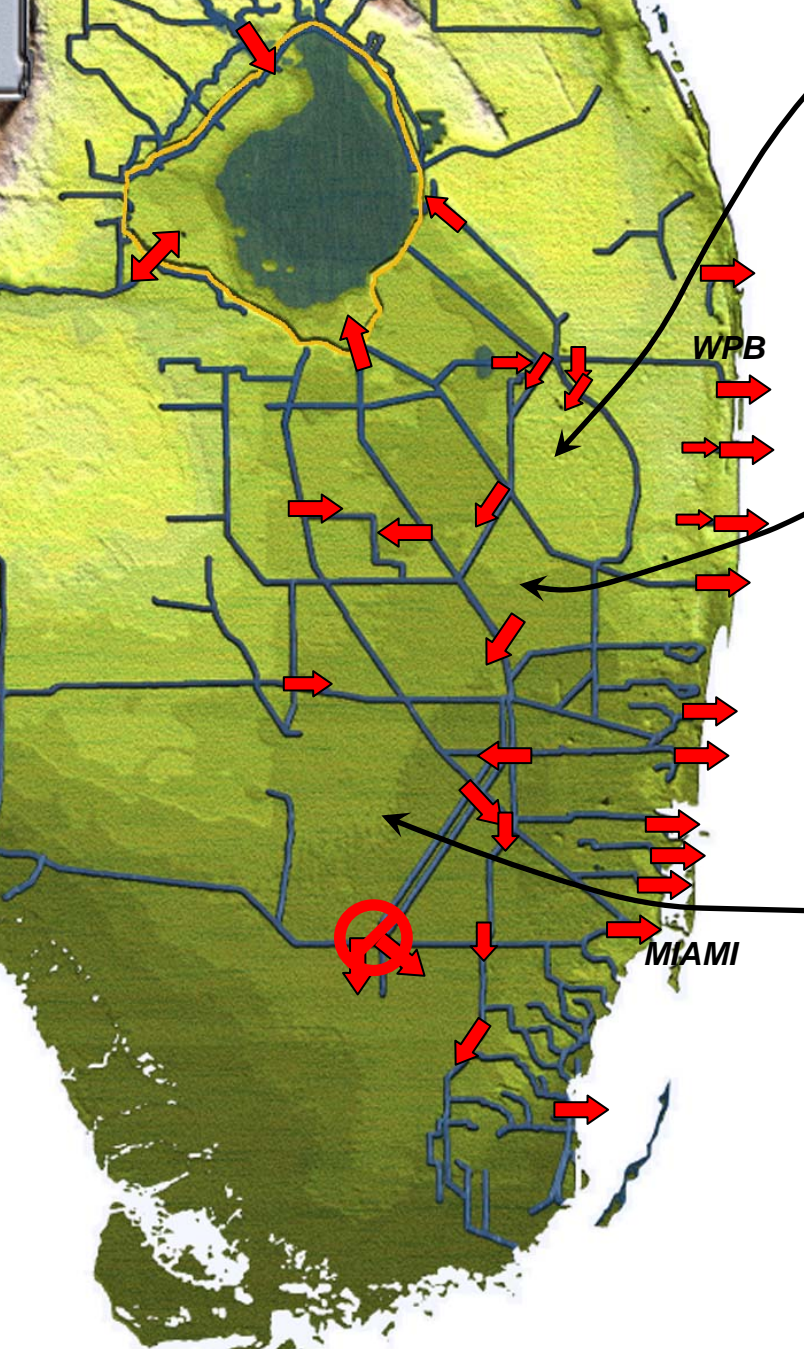
St Lucie Structures on C23, C24 & C25 Canals
Published: 02/13/08



Lake Istokpoga

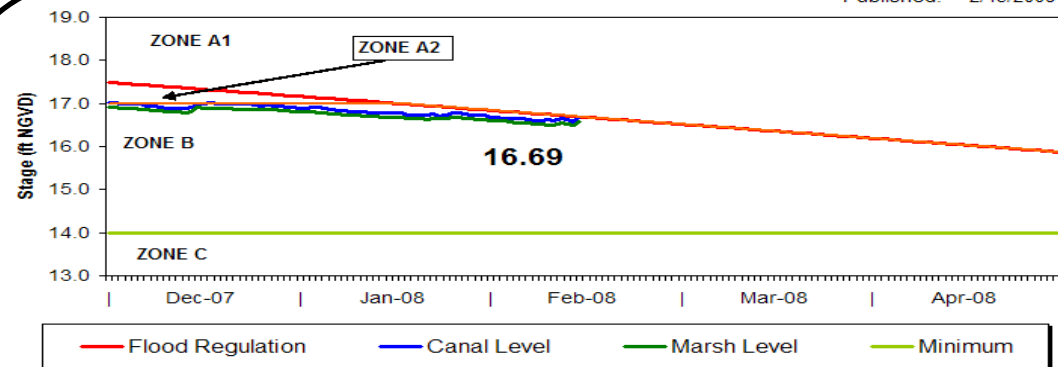
Published: 2/13/2008





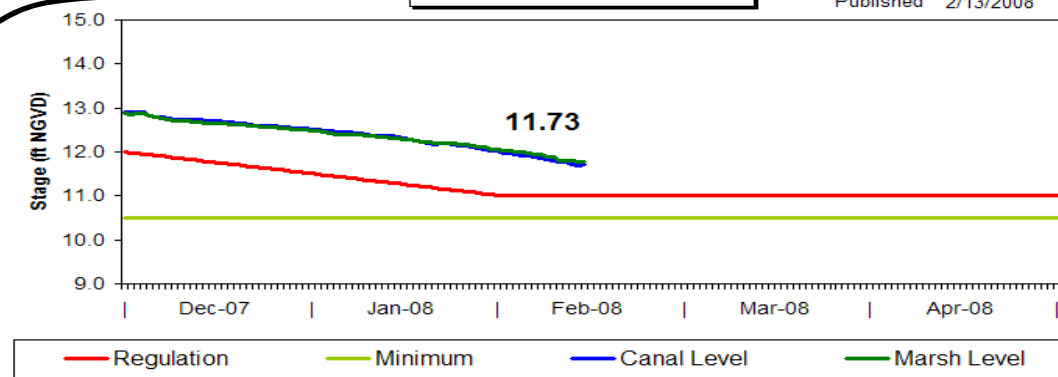
Water Conservation Area 1

Published: 2/13/2008



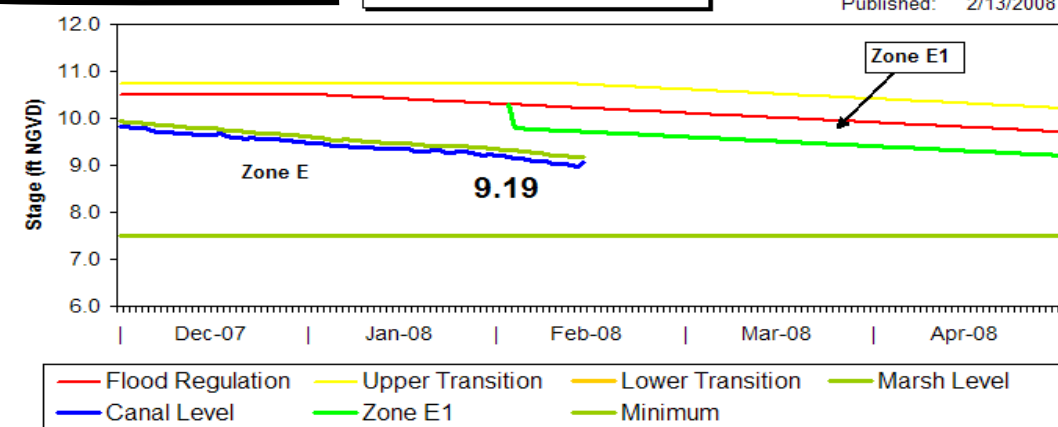
Water Conservation Area 2A

Published 2/13/2008



Water Conservation Area 3A

Published: 2/13/2008



Water Supply Operation prior to Feb 12-13 Rainfall



- Temporary pumps at S-155A used to capture excess C-51 basin runoff helped to meet the EAA water supply allocation.
- LWDD pumped excess back to their system.
- Resulted in less discharge to tide & decreased supply from Lake Okeechobee.

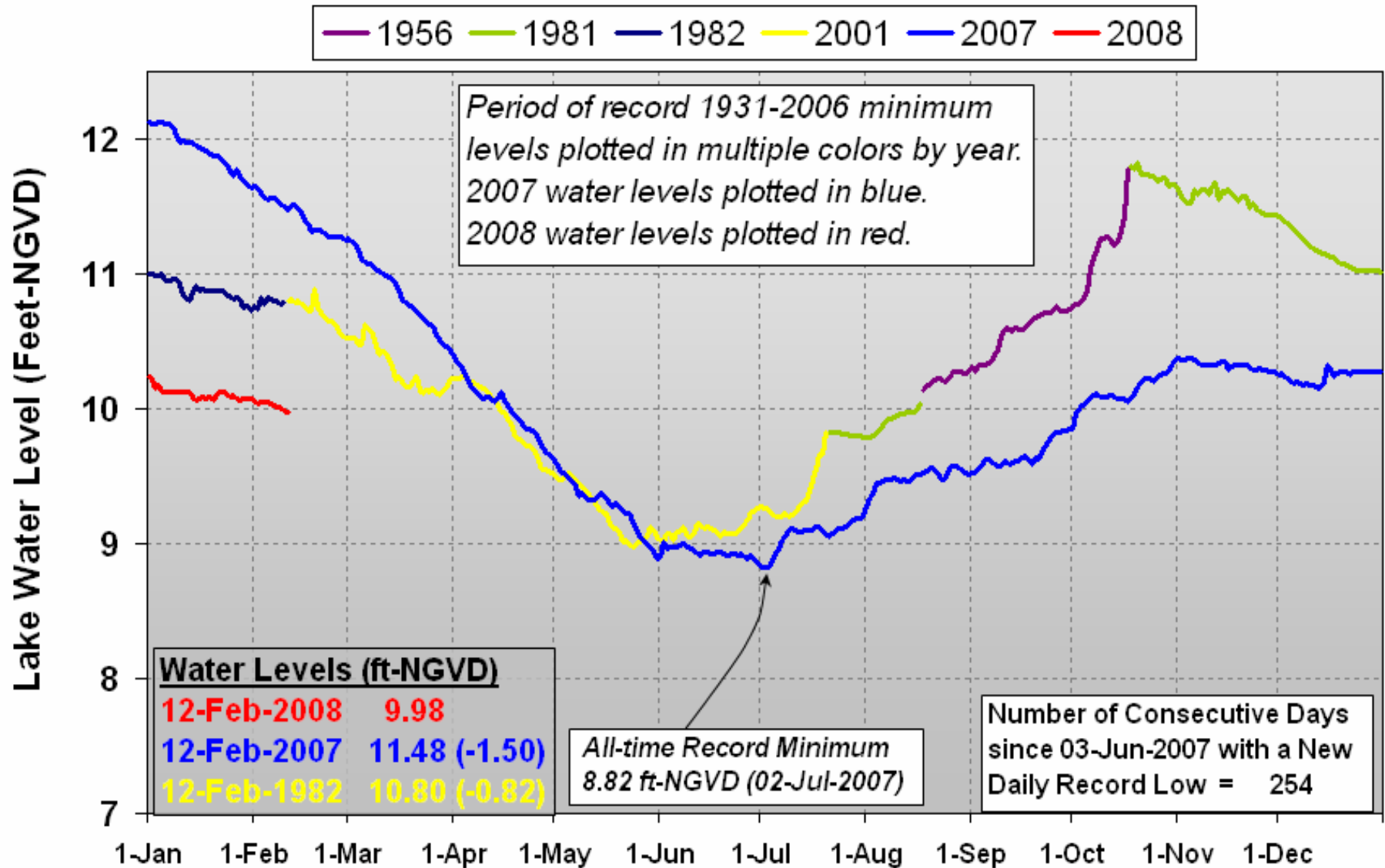
- Excess water in WCA-2A used to meet EAA water supply allocation & eastern Broward Co. (C-14)
- Discharge to WCA-3A continued per regulation.
- Resulted in decreased need for Lake O water supply.

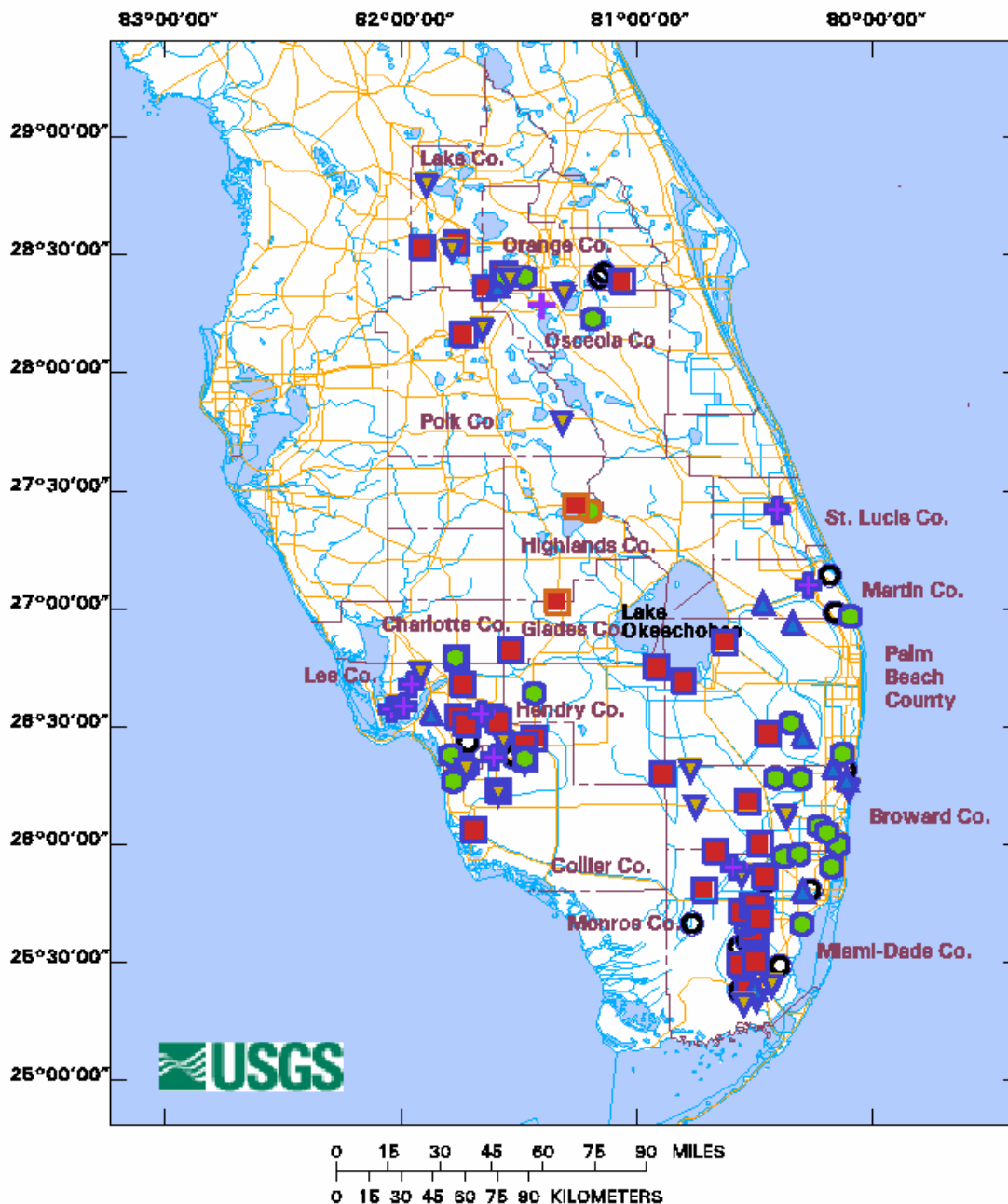


OCT 12 2007

Lake Okeechobee

Period of Record 1931-2006 Minimum Water Levels



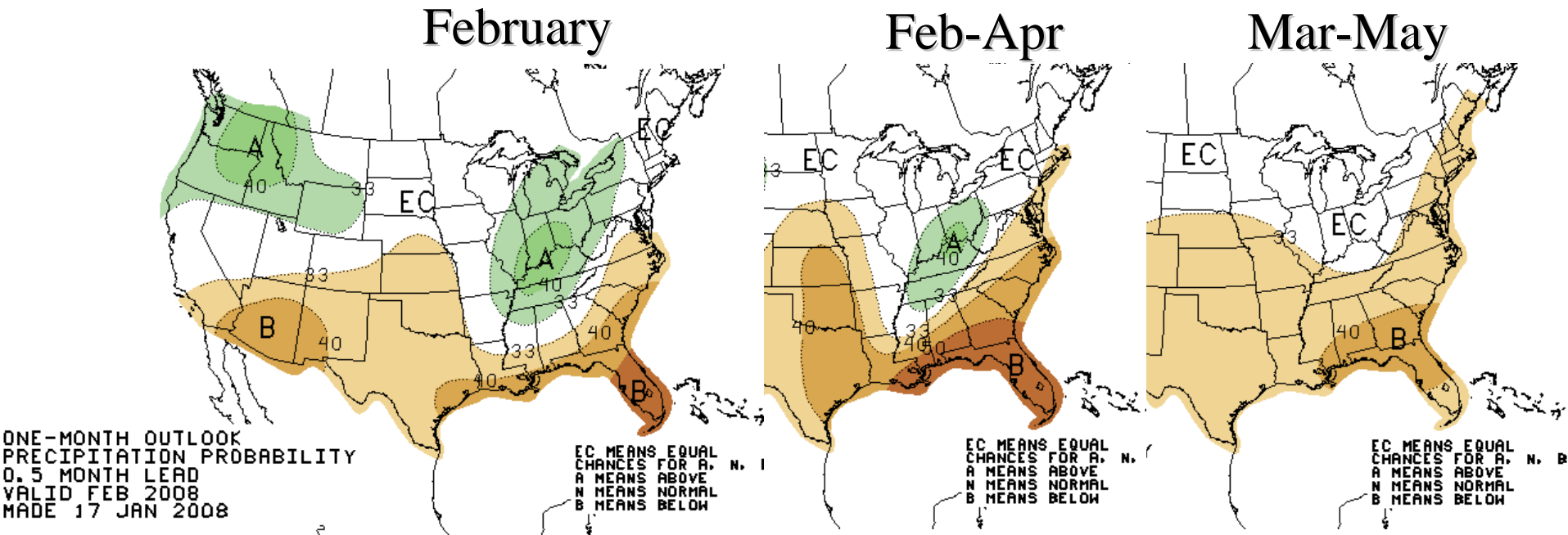


WATER LEVELS AT SELECTED MONITORING SITES **as of February 11, 2008**

Based on PROVISIONAL DATA

U. S. Seasonal Precipitation Outlook

National Climate Prediction Center (CPC)



The CPC February outlook is for an increased chance of below-normal rainfall. The 2007-2008 dry season has an increased chance of below-normal rainfall due to La Niña conditions which are predicted by many climate models to persist.

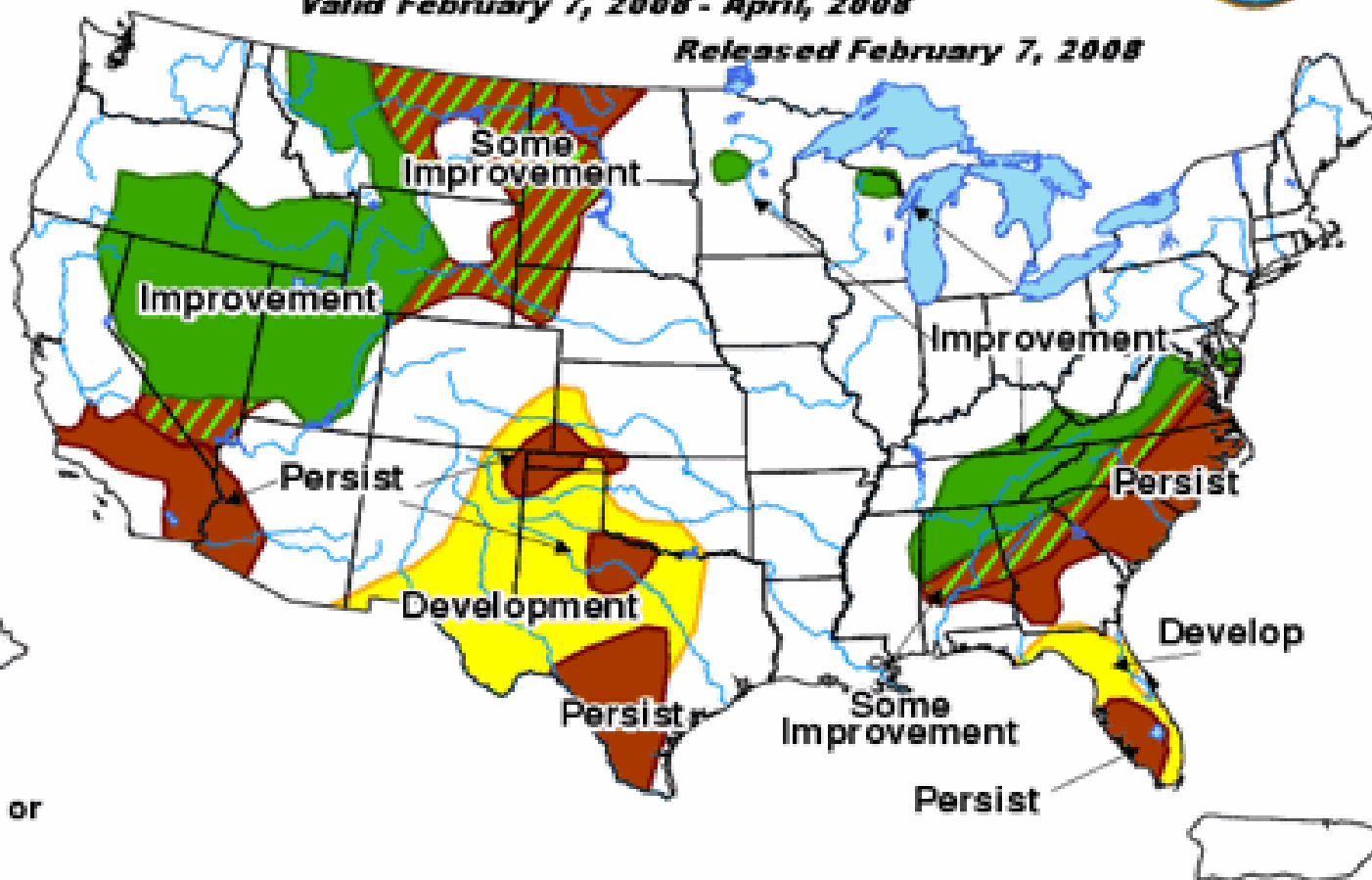


U.S. Seasonal Drought Outlook





Drought Tendency During the Valid Period

Valid February 7, 2008 - April, 2008

Released February 7, 2008



KEY:

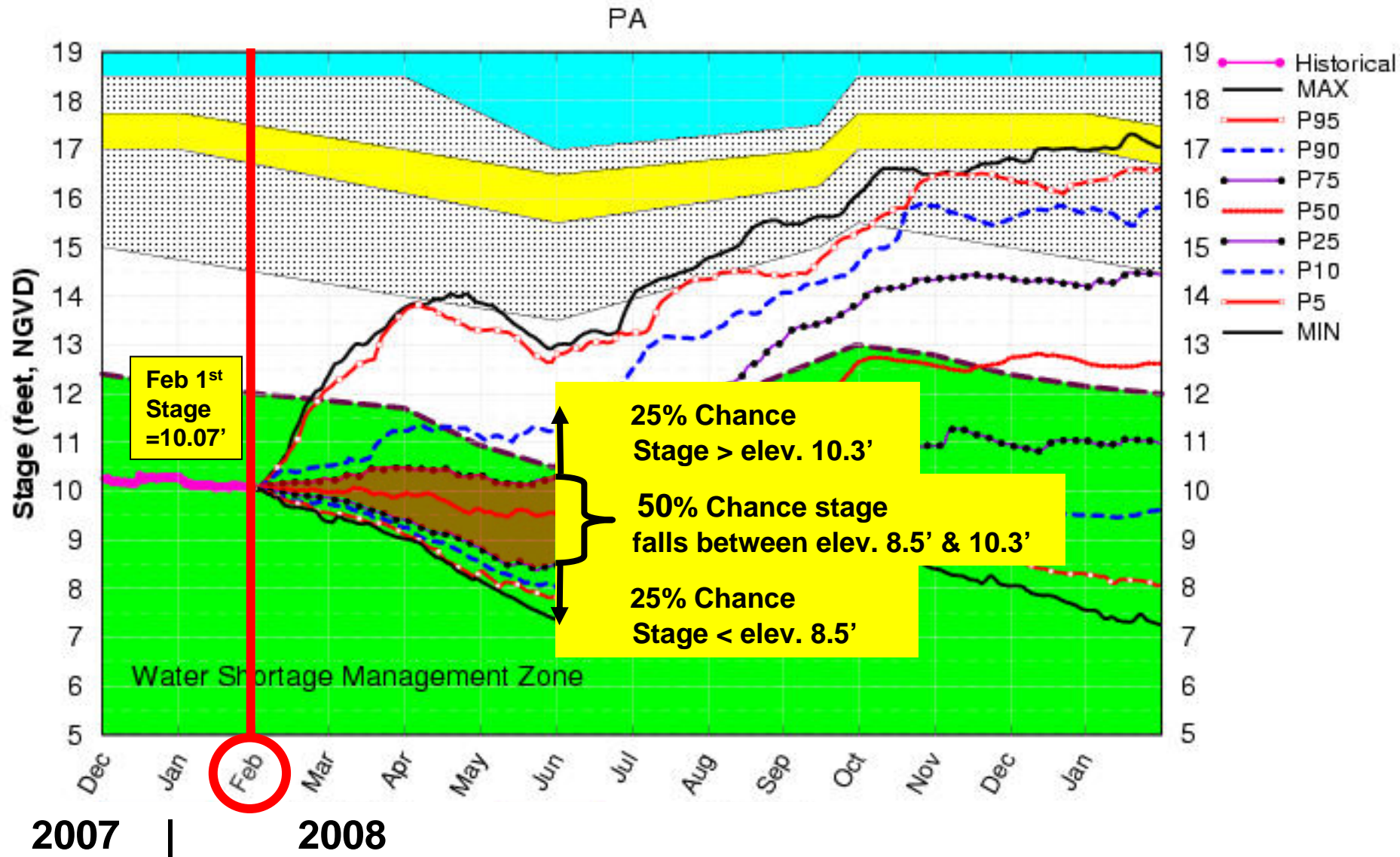
-  Drought to persist or intensify
-  Drought ongoing, some improvement
-  Drought likely to improve, impacts ease
-  Drought development likely

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events — such as individual storms — cannot be accurately forecast more than a few days in advance. Use caution for applications — such as crops — that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

How will Lake Okeechobee stages behave during 2007-08?

- **Depends on rainfall**
- **Projections provided monthly by SFWMD Hydrologic and Environmental Systems Modeling (HESM) Department**
http://www.sfwmd.gov/org/pld/hsm/reg_app/opln/PA/wmm_upa_05012007.html
- **Position Analysis**
 - Each year starts with current hydrologic conditions
 - 41 1-yr simulations of system response to historical rainfall conditions
 - Statistical summaries used to provide projections

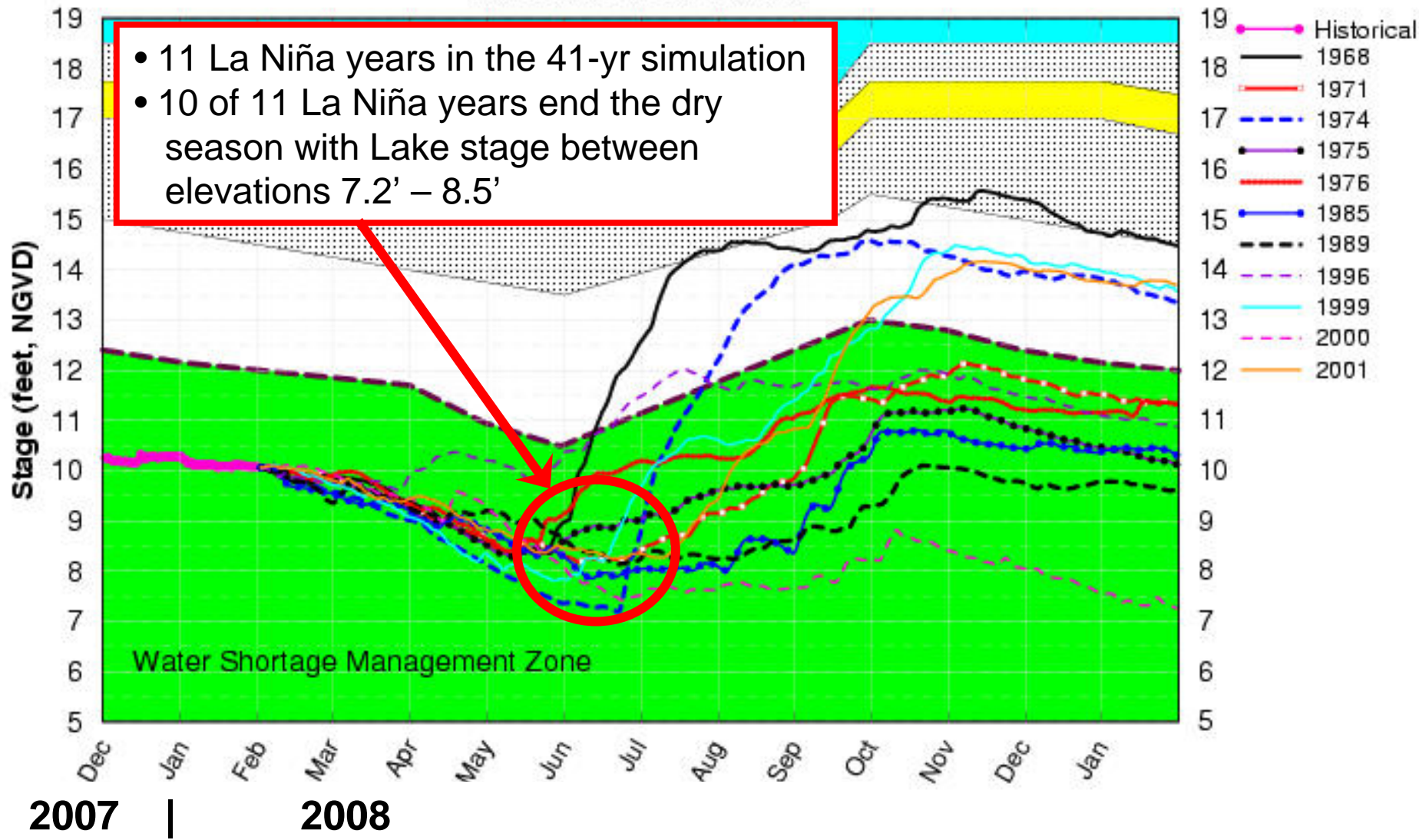
Lake Okeechobee SFWMM February 2008 Position Analysis



(See assumptions on the Position Analysis Results website)

Lake Okeechobee SFWMM February 2008 Position Analysis

All La Nina Years Plot PA



(See assumptions on the Position Analysis Results website)

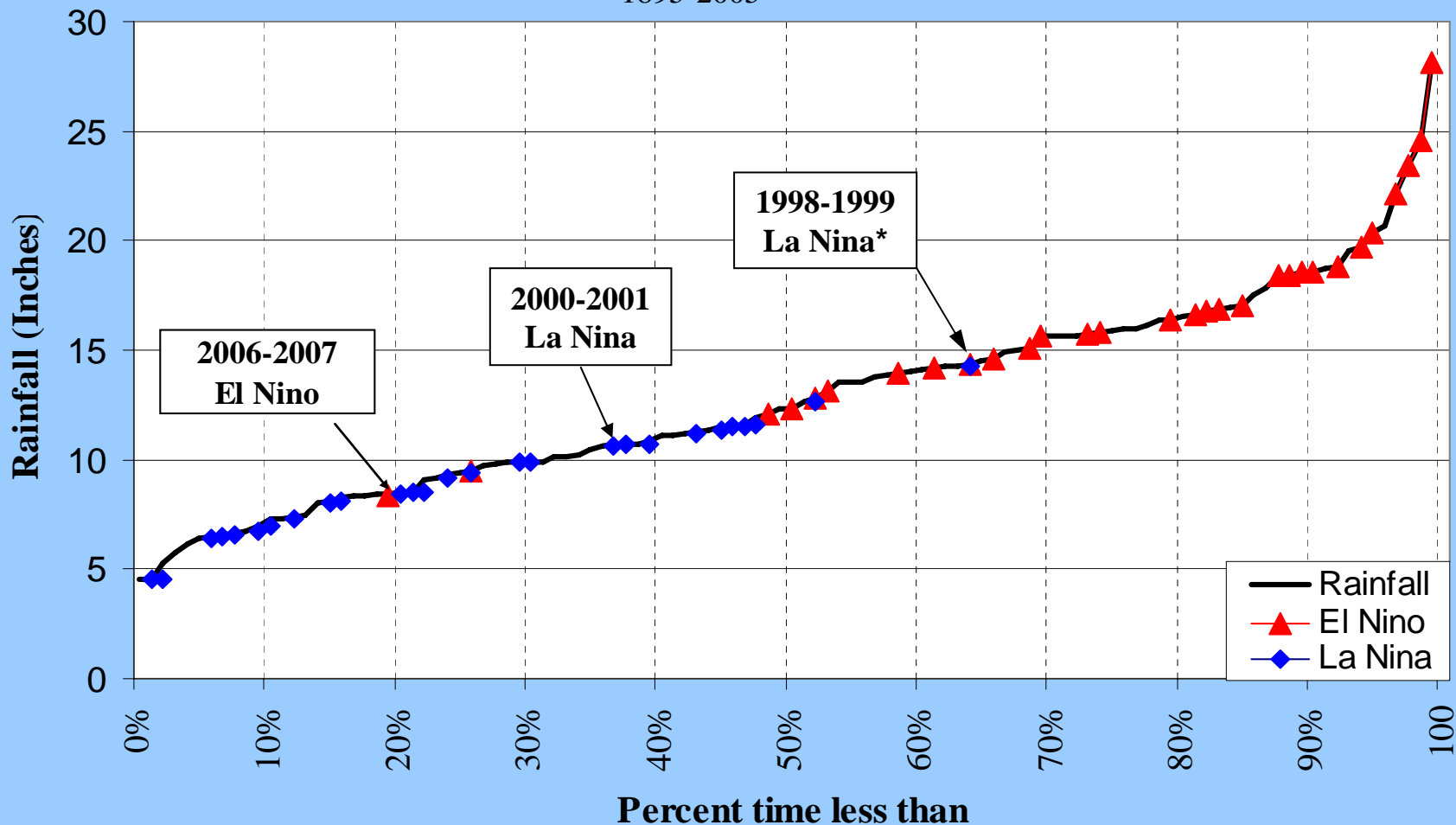
Questions?



Historical SFWMD Dry Season Rainfall

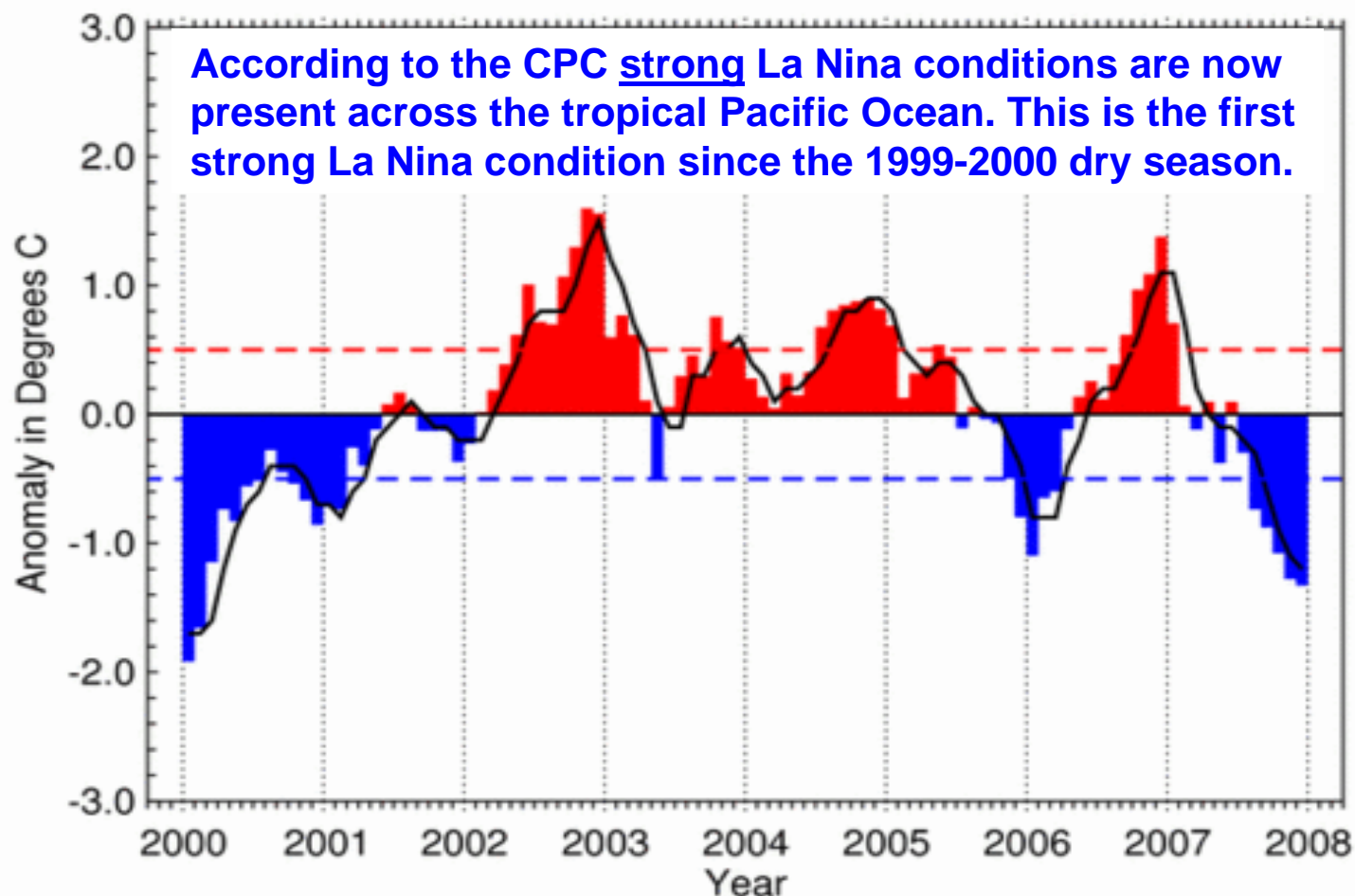
(November - April)

1895-2005



* 25 of the 27 La Niña years experienced rainfall less than the median

SST Anomaly in Nino 3.4 Region (5N-5S,120-170W)

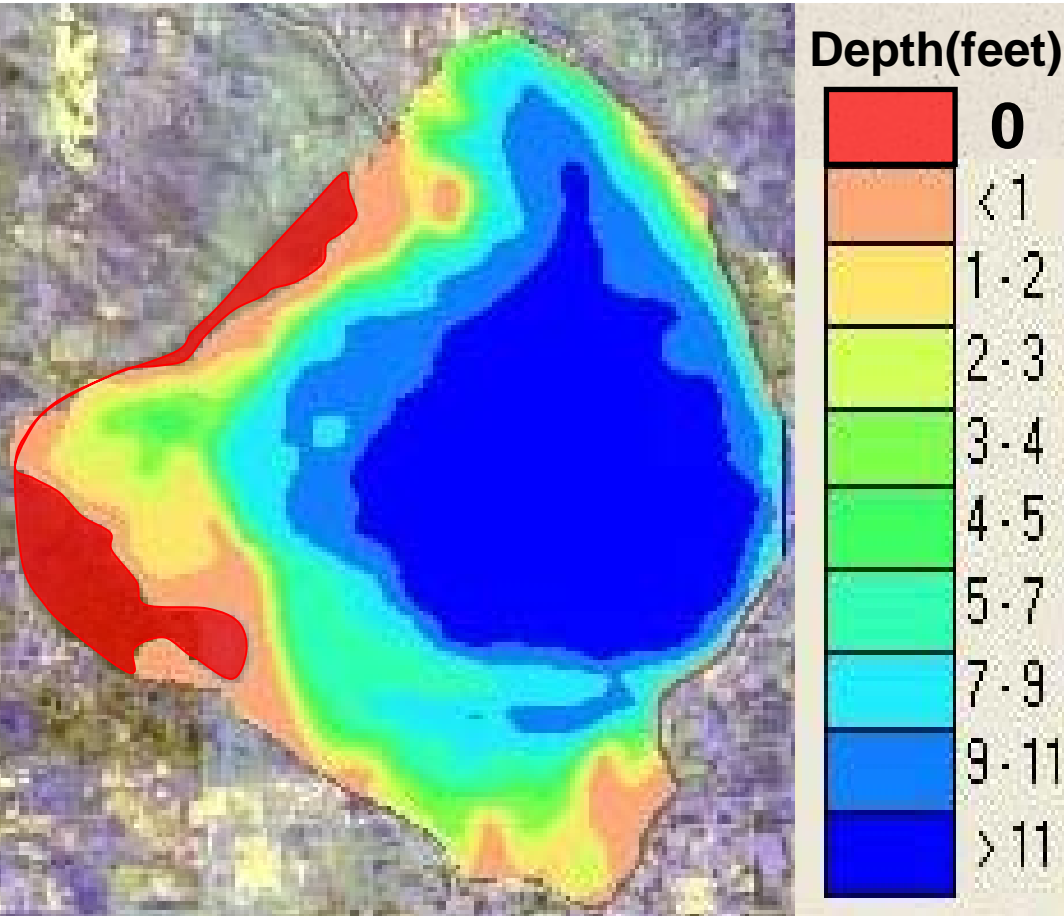


National Climatic Data Center / NESDIS / NOAA

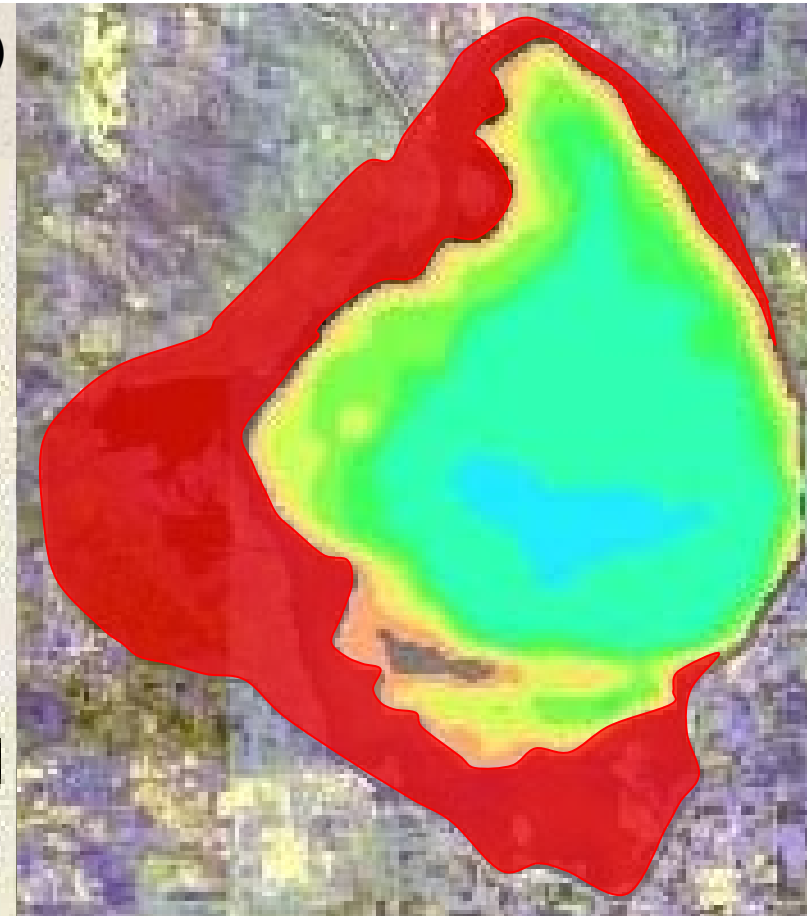
Lake Okeechobee Water Surface Area & Depths

Average end of dry season (May)
Lake Stage = 13.0 ft, NGVD

Possible end of 2008 dry season
Lake Stage = 7.0 ft, NGVD

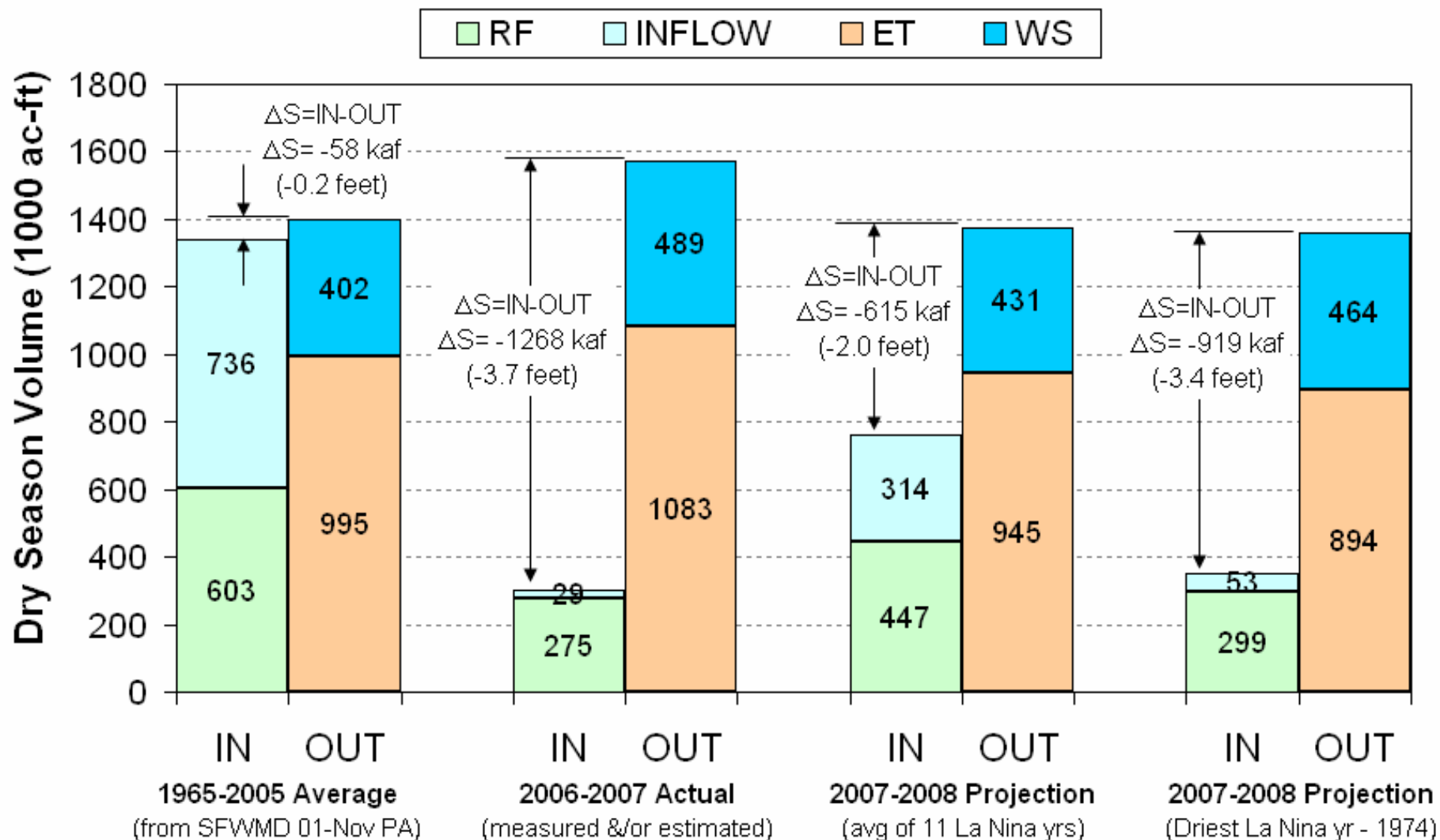


Lake Surface Area
652 sq.miles (90%)



Lake Surface Area
444 sq.miles (60%)

Lake Okeechobee Water Budget Comparison (Dry Season: Nov-May)

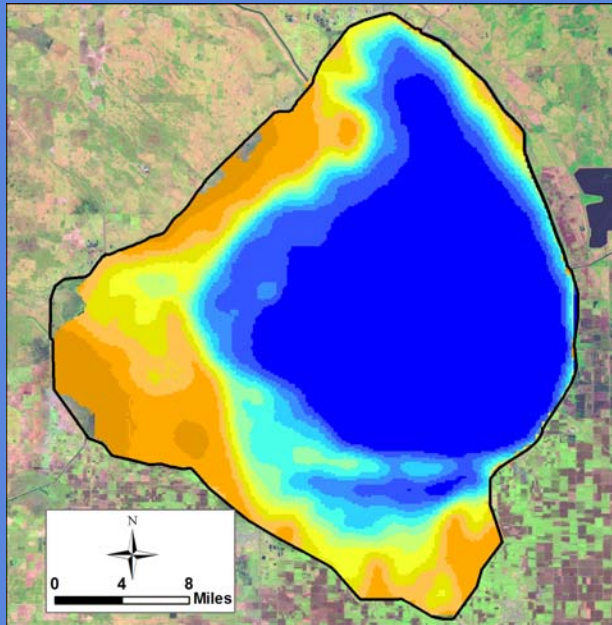


Lake Okeechobee Water Depth Comparison

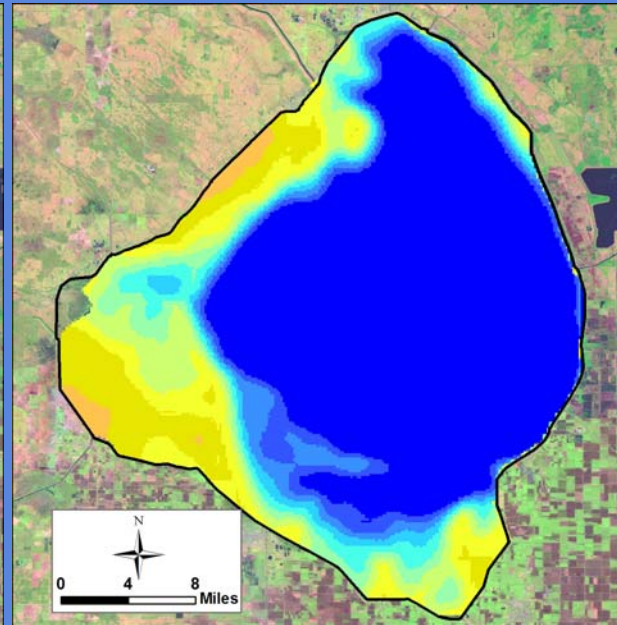
<http://spatial1.sfwmd.gov/losac/sfwmd.asp>

Elevation
14.3 ft, NGVD
Long-term
Average
(1965-2005)

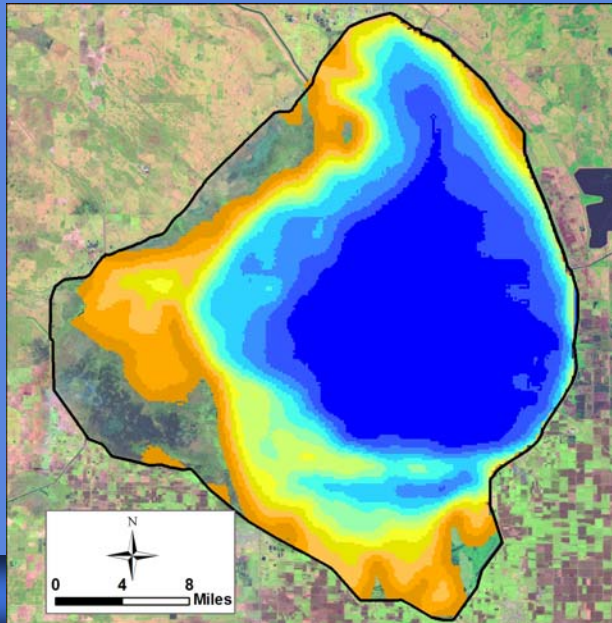
Water Depth



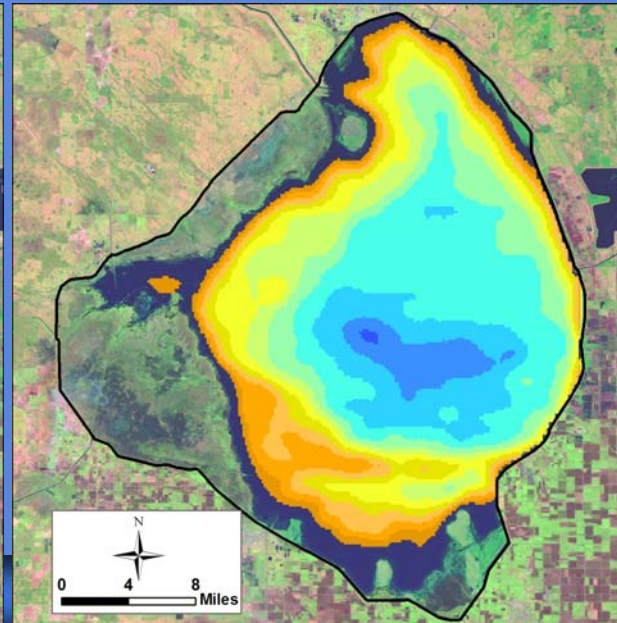
Elevation
17.0 ft, NGVD
Hurricane
Wilma
Nov-2005



Elevation
12.7 ft, NGVD
Start of '07
dry season
01-Nov-2007

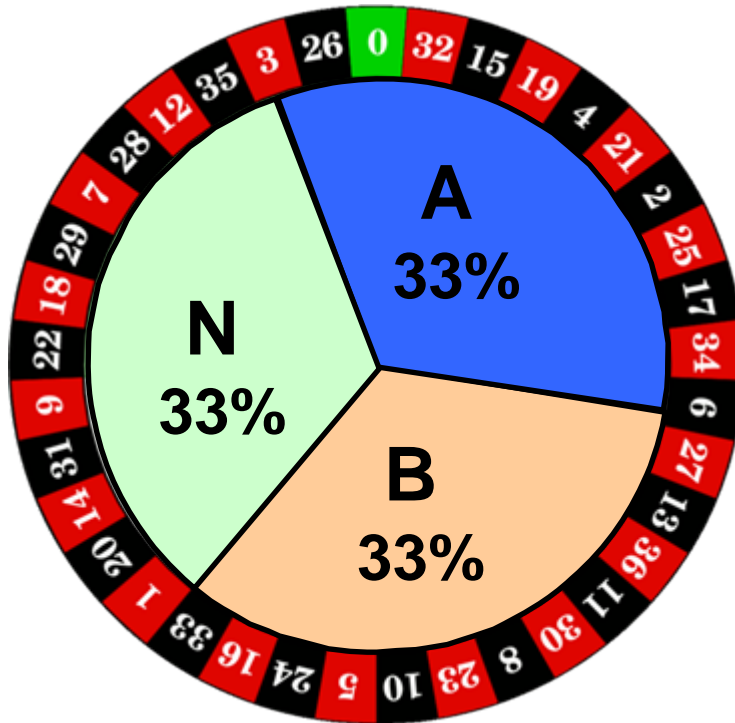


Elevation
8.82 ft, NGVD
Record Low
02-July-2007

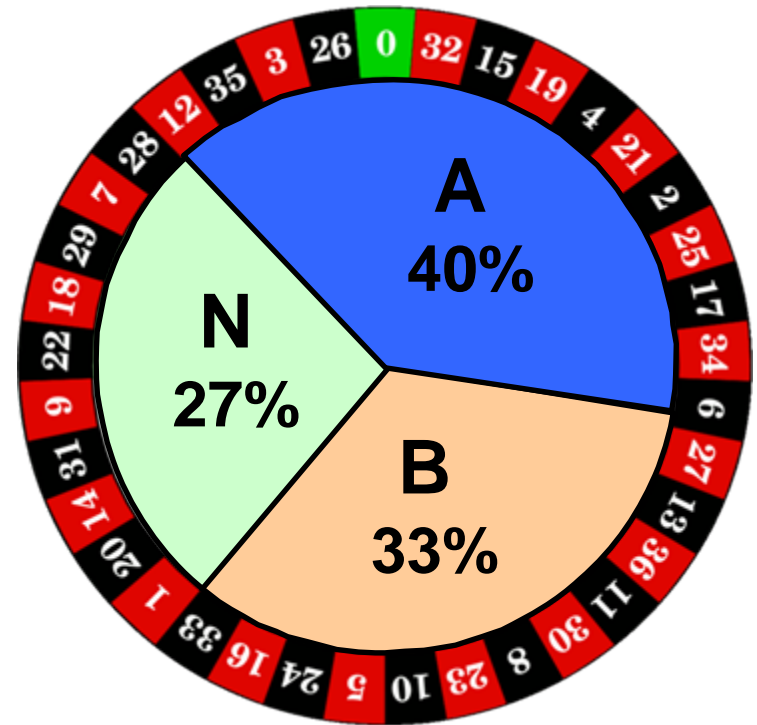


Climate Outlook Probabilities

How to Interpret the CPC Precipitation Outlook



EC = Equal Chances of A, N, B



Increased Chance of Above-Normal

SFWMD 2008 January Rainfall

Jan 2nd – Feb 1st

DISTRICT-WIDE:
1.27" (57%, -0.96")

Average January
= 2.23"

- *Below-average January rainfall in all basins except Upper Kissimmee*
- *Third consecutive month with below-average rainfall*
- *8 of past 9 years have had below-average rainfall in January (2004 was 2.75")*

